Item Title	Item Category	Description	Key Technologies/Standards	Relevant Dissertation Chapte	Source	
PhD Cybersecurity — Dissertation Concept (Refocused)	Policy Paper / Research Prospectus	A comprehensive research prospectus presenting the research statement, a mixed-methods evaluation of PQC evidence integrity in disability adjudication, and a falsifiable core hypothesis regarding the SET ledger.	Post-Quantum Cryptography (PQC); Evidence Law; Daubert Admissibility; SET Ledger	All (Chapters 1–4)	1, 2, 3	
Hybrid Semantic Processing Architecture (HSPA) / HSPA-9	Prototype / Technical Architecture	A containerized Python/FastAPI working prototype designed to support falsifiable empirical claims regarding PQC migration. It provides a three-layer (Application, Cryptographic, Network) cryptographic chain-of-custody infrastructure.	NIST PQC Primitives (ML-KEM-768, ML-DSA-III); SHA3-256; Open Quantum Safe (liboqs); FastAPI; Mininet/GNS3; TEEs	Chapter 3, Chapter 4	4, 5, 6, 7, 2, 8, 9, 10, 11, 3, 12	
Semantic Evidence Trace (SET) Ledger	Prototype / Technical Architecture	A hash-linked, digitally signed Merkle-style recursive chain used to anchor evidence packages for validation against legal reliability standards without a consensus mechanism.	SHA3-256; ML-DSA-III; ML-KEM-768; IETF RFC 9162; Daubert Prongs	Chapters 3 and 4	5, 6, 8, 9, 10, 12	
Consolidated Supreme Court Submission (Petitions 1–5 & Exhibits 1–5)	Legal Filing	A 193-page consolidated submission addressing neurogenetic evidence exclusion, bad-faith prosecution, and the lack of PQC security in federal adjudication. Functions as autoethnographic data for the dissertation.	APA 5 U.S.C. § 706; Supreme Court Rule 10; Post-Quantum Cryptography (PQC); Due Process; Evidence Law; Procedural Justice	Chapter 1 (Empirical Hook)	13, 4, 5, 7, 1, 2, 8, 9, 10, 11, 3, 12	
Baltimore Secure Backbone System (BSBS)	Municipal Network Specification	A zero-trust municipal network design and policy whitepaper for migrating health-IT infrastructure to quantum-resistant standards, mapping the 2019 Baltimore ransomware event to migration requirements.	NIST SP 800-207 (Zero-Trust); NIST PQC (ML-KEM, ML-DSA, SLH-DSA); Fourth Amendment search doctrine	Chapter 3, Chapter 5	14, 15, 4, 6, 7, 1, 2, 9, 10, 11, 3, 12, 16	
High-Security Genomic Data Generator (HS-GDG)	Microservice / Prototype	A tool within the HSPA application layer that fuses biomedical literature and legal metrics into an immutable, SHA3-256-hashed audit trail for evidentiary use.	SHA3-256; ML-DSA; Merkle-chained ledger; IETF RFC 3161 (Timestamps); Daubert Standard; HIPAA	Chapter 3, Chapter 6	14, 15, 6, 9, 16	
Closed-loop Integrated Neuroprosthetic (CINP)	Reference Architecture / Prototype	A system that uses real-time polygenic risk scores (PRS) to drive CRISPRa/i modules for on-demand epigenomic control of neurogenetic disorders with integrated PQC audit capabilities.	CRISPRa/i; Polygenic Risk Scores (PRS); ML-DSA (FIPS 204); SHA3-256; HIPAA; FDA; Daubert standards	Chapter 3, Chapter 4	14, 15, 16	
PQC in Healthcare Environments (Systematic Review)	Systematic Review / Literature Review	A PRISMA-style systematic review of PQC implementations in healthcare (2019–2026), identifying latency benchmarks, availability, and regulatory gaps.	NIST FIPS 203, 204, 205; OMB M-23-02; HIPAA Security Rule; GDPR; EU Medical Device Regulation	Chapter 2	5, 6, 8	
Structured Delphi Panel Study	Legal-Empirical Study	A structured evaluation by judges and practitioners of SET-anchored evidence packages against evidentiary standards to validate substantive evidence.	Daubert Prongs (Testability, Peer Review, Error Rate, General Acceptance); Delphi panel transcripts	Chapter 4	5, 6, 8	
Mininet/GNS3 Simulation Campaign	Technical Validation Study	Measurement of latency, throughput, and packet loss under simulated DDoS and "Harvest-Now, Decrypt-Later" (HNDL) attack scenarios using PQC primitives.	ML-KEM-768; ML-DSA-III; SHA3-256; HIPAA § 164.308; DDoS/HNDL resilience	Chapter 3	5, 6	
Unified Cognitive Infrastructure System (UCIS) / Provisional Patent	Legal Filing / Patent	A provisional patent application for a cognitive infrastructure system and neuroprosthetic adjudication system that the SET ledger extends.	USPTO Standards; Patent Law; Post-Quantum Cryptography; Genomic Adjudication	Chapter 3 (Section 3.4)	14, 15, 4, 7, 1, 2, 9, 10, 11, 3, 12, 16	
ASTA Genomic Analysis Pipeline	Empirical Study / Software Prototype	A 500-hypothesis empirical framework for variant-level quality control and computational analysis of real SNP datasets.	BCFtools; SAMtools; PLINK; Python (pandas, numpy); R; VCF; HLA region characterization	Not in source	4, 7, 1, 2, 8, 9, 10, 11, 3, 12	
Genomic Privacy & Disability Rights Amicus Brief	Policy Paper / Legal Analysis	A companion document developing the full legal argument for the use of polygenic evidence in disability determinations and the necessity of robust audit trails.	Daubert-defensible methodology; HIPAA; GINA; GDPR; Genetic Privacy	Chapter 6.2	14, 15	
Polygenic Risk Score (PRS) Evidence Proffer	Evidence / Biometric Data	Objective neurogenetic data and biomarkers (including $COMT$, $DRD4$, $FKBP5$, and $SCN2A$ loci) used as probabilistic inputs for disability adjudication.	$COMT$ rs4680; $FKBP5$ rs1360780; 20 C.F.R. Pt. 404, Subpt. P, App. 1	Chapter 1	5	
Asset Family 1 — Precision Neuropsychiatry Response Algorithm	Clinical Decision Support	A composite scoring system integrating genotypes ($COMT$, $DAT1$, $DRD4$, $HTR1A$) and neuroinflammatory markers to predict TAAR1 agonist treatment response.	Alice (35 U.S.C. § 101) challenges; $COMT$ rs4680; $DAT1$ / $DRD4$ VNTR; $HTR1A$ rs6295; CPT-3/ADHD-RS-5	Not in source	17	
Genomic Data Generator API Specification	Technical Specification	API documentation for the HS-GDG microservice, detailing endpoints for PQC handshakes, Merkle proofs, and Daubert-compliant query reproducibility.	SPIFFE identity; ML-DSA; ML-KEM; Prometheus metrics; Daubert reproducibility	Appendix E	14, 15	
UMGC Competency Mapping Table	Academic Portfolio Artifact	A mapping document demonstrating coverage of all UMGC BS Biotechnology and BS Cybersecurity Technology program outcomes within the portfolio.	UMGC Program Outcomes; FDA; IRB; GINA; NIST PQC; HIPAA; NIST SP 800-207	Appendix A	14, 15	
Professional Certifications	Credentials	Active industry-recognized cybersecurity and IT certifications.	CompTIA A+; Network+; Security+; Healthcare IT Technician	Not in source	7, 1, 11, 3	
Risk Matrix and Scope and Limitations Statement	Technical Documentation	A methodological maturity disclosure identifying specific risks, impacts, and mitigations (e.g., cryptographic overhead).	Risk Likelihood/Impact/Mitigation; HIPAA § 164.308 administrative safeguards	Not in source	2, 10	
Regulatory Pathway Proposal	Policy Framework	A proposal for the admission of PQC-anchored evidence in federal administrative and criminal proceedings.	Federal Rules of Evidence; Daubert Standards	Chapter 4 / Integration	6	